

In re Patent Application of: \_\_\_\_\_

**RUAT, ET AL.**

Serial No. **10/824,938**

Filed: **April 15, 2004** \_\_\_\_\_

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#### REMARKS

The Examiner is thanked for the careful examination of the present application. Independent Claims 1, 7, and 13 have been amended to more clearly define over the prior art. In view of the amendments and arguments presented in detail below, it is submitted that all claims are patentable over the prior art.

#### I. The Amended Claims

Independent Claim 1 is directed to an asynchronous frame receiver comprising an input for receiving an asynchronous frame comprising a break character. Independent Claim 1 has been amended to further recite the break character comprising at least three bits, each and every bit of the break character having a same value. A hot-plugging circuit is for connecting to an asynchronous data bus that is operating, the hot-plugging circuit detecting the break character, and leaving an initial idle state and switching to at least one operating mode when the break character has been detected. Independent Claim 7 is directed to a related microcontroller device.

Independent Claim 13 is directed to a method for connecting an asynchronous frame receiver to an asynchronous data bus that is operating. The method comprises setting the asynchronous frame receiver to an initial idle state. The method further comprises receiving at an input of the asynchronous frame receiver an asynchronous frame comprising a break character. Independent Claim 13 has been amended to further recite the break character comprising at least three bits, each and every bit of the break character having a same value. Moreover, the method

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includes detecting the break character and switching the asynchronous frame receiver from the initial idle state to at least one operating mode.

## **II. The Claims Are Patentable**

The Examiner rejected independent Claims 1, 7, and 13 over Rakib et al. Rakib et al. discloses a system for bidirectional communication of digital data between a central unit and a remote unit wherein the need for tracking loops in the central unit has been eliminated. The central unit transmitter generates a master carrier and a master clock signal that are used to transmit downstream data to the remote units. The remote units recover the master carrier and master clock and synchronize local oscillators in each remote unit to these master carrier and master clock signals to generate reference carrier and clock signals for use by the remote unit receiver.

Independent Claims 1, 7, and 13 have been amended to recite the break character comprising at least three bits, each and every bit of the break character having a same value. Rakib et al. discloses using a Barker code to synchronize its local oscillators. A Barker code is a sequence of  $N$  values of  $+1$  and  $-1$ ,

$$a_j \text{ for } j = 1, \dots, N$$

such that

$$\left| \sum_{j=1}^{N-v} a_j a_{j+v} \right| \leq 1$$

for all  $1 \leq v < N$ .

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Presented below for the Examiner's convenience is a table of all known Barker codes, where negations and reversals of the codes have been omitted.

**Known Barker Codes**

Length	Codes	
2	+1 -1	+1 +1
3	+1 +1 -1	
4	+1 -1 +1 +1	+1 -1 -1 -1
5	+1 +1 +1 -1 +1	
7	+1 +1 +1 -1 -1 +1 -1	
11	+1 +1 +1 -1 -1 -1 +1 -1 -1 +1 -1	
13	+1 +1 +1 +1 +1 -1 -1 +1 +1 -1 +1 -1 +1	

(See <http://mathworld.wolfram.com/BarkerCode.html> and [http://en.wikipedia.org/wiki/Barker code](http://en.wikipedia.org/wiki/Barker_code))

In sharp contrast to the claimed feature of a break character comprising at least three bits, each and every bit of the break character having a same value, the bits of the Barker

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code of Rakib et al. cannot each have a same value if the Barker code has at least three bits. Consequently, Rakib et al. fails to disclose all the elements of amended independent Claims 1, 7, and 13.

Accordingly, indepndent Claims 1, 7, and 13 are patentable over Rakib et al. Their respective dependent claims, which recite yet further distinguishing details, are likewise patentable and require no further discussion herein.

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**CONCLUSION**

In view of the amendments to the claims and the arguments provided herein, it is submitted that all the claims are patentable. Accordingly, a Notice of Allowance is requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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